

REMARKS

The Examiner has rejected claims 1, 4-6, 13, 14, and 16-22 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,874,878 to Sugata ("Sugata") in view of U.S. Patent No. 6,074,050 to Perez et al. ("Perez"). The Examiner has also rejected claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of U.S. Patent No. 6,508,545 to Dowell et al. ("Dowell"). In addition, the Examiner has rejected claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of U.S. Patent No. 6,715,864 to Perkins et al. ("Perkins"). The Examiner has rejected Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez and Dowell, and further in view of Perkins. The Examiner has rejected Claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of U.S. Patent No. 3,730,240 to Presnick ("Presnick"). The Examiner has rejected claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of Presnick. The Examiner has objected to Claims 3, 10, and 11 as being dependent upon a rejected base claim. However, Examiner has conceded that claims 3, 10, and 11 would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Claims 25-28 have been previously withdrawn from consideration. Claims 1-28 are currently pending. The following remarks are considered by applicant to overcome each of the Examiner's outstanding rejections to current claims 1-24. An early Notice of Allowance is therefore requested.

I. SUMMARY OF RELEVANT LAW

The determination of obviousness rests on whether the claimed invention as a whole would have been obvious to a person of ordinary skill in the art at the time the invention was made. In determining obviousness, four factors should be weighed: (1) the scope and content of the prior art, (2) the differences between the art and the claims at issue, (3) the level of

ordinary skill in the art, and (4) whatever objective evidence may be present. Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor. The Examiner carries the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness and must show that the references relied on teach or suggest all of the limitations of the claims.

II. REJECTION OF CLAIMS 1, 4-6, 13, 14, AND 16- 22 UNDER 35 U.S.C. § 103(A) BASED ON
SUGATA IN VIEW OF PEREZ

On page 2 of the current Office Action, the Examiner rejects claims 1, 4-6, 13, 14, and 16-22 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez. These rejections are respectfully traversed and believed overcome in view of the following discussion.

The Examiner contends that Sugata discloses all of the limitations of Claim 1 except for disclosing an ink delivering member that includes a fixing portion to which the outer bag is fixed at an opening thereof and an extending portion which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion and to which the ink accommodating bag is fixed at an opening thereof. Instead, Examiner points to Perez as satisfying this claim limitation. However, this is a misinterpretation of the teachings of both Sugata and Perez. Specifically, neither reference discloses the ink delivering member as specified in Claim 1. As such, Applicants respectfully asserts that the Examiner's rejection stands in error.

Claim 1 of the current application states, in part:

“an outer bag which is formed of a second flexible sheet and which encloses the ink accommodating bag such that a first space is defined by and between the ink accommodating bag and the outer bag;

“an ink delivering member including a fixing portion to which the outer bag is fixed at an opening thereof and an extending portion which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion and to which the ink accommodating bag is fixed at an opening thereof;

“a rigid casing which encloses the outer bag and the ink accommodating bag such that a second space is defined by and between the outer bag and the rigid casing and which holds the ink delivering member;

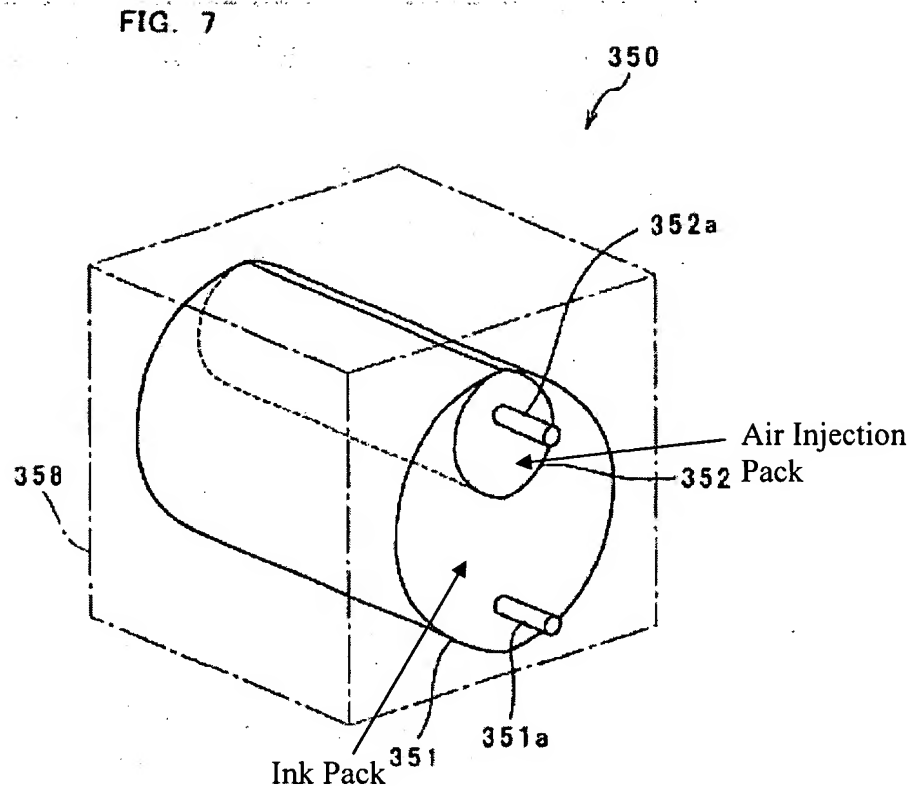
“wherein the ink delivering member further includes an ink outlet passage through which the ink in the ink accommodating bag is delivered to an exterior of the ink cartridge **and a communication passage through which the first space is held in communication with the exterior of the ink cartridge.**”

(emphasis added).

Accordingly, (1) the outer bag must enclose the ink accommodating bag; (2) the first space is defined by and between the ink accommodating bag and the outer bag, (3) the outer bag is distinct from the casing, and (4) the communication passage must hold the **first space** in communication with the exterior of the ink cartridge.

Examiner contends that Sugata discloses an outer bag (pack 351) which is formed of a second flexible sheet and which encloses the ink accommodating bag (pack 352). Office Action (2/24/07), P. 2-3. In support of this assertion, the Examiner additionally points to Fig. 7. However, this misconstrues the teachings of Sugata.

Sugata clearly states that pack 351 is actually “ink pack 351”, and that pack 352 is actually “air injection pack 352. Sugata, Col. 8, Lns. 19-33. Thus, ink pack 351 cannot be an outer bag as claimed by Examiner, and air injection pack 352 cannot be an ink accommodating bag as claimed by Examiner. Additionally, as shown below, Fig. 7 teaches that the ink pack 351 surrounds the air injection pack 352, and not the other way around as asserted by Examiner.



Thus, Sugata clearly fails to disclose “an outer bag which is formed of a second flexible sheet **and which encloses the ink accommodating bag** such that a first space is defined by and between the ink accommodating bag and the outer bag”, as set forth in Claim 1.

Moreover, Perez also fails to disclose this claim language, and Examiner never asserts otherwise.

In addition, Sugata fails to disclose that an “ink delivering member further includes an ink outlet passage through which the ink in the ink accommodating bag is delivered to an exterior of the ink cartridge **and a communication passage through which the first space is held in communication with the exterior of the ink cartridge**”, as stated in Claim 1.

As discussed above, Sugata discloses that the ink pack 351 surrounds the air injection pack 352, instead of the other way around. In addition, the “first space” of Claim 1 is “defined by and between the ink accommodating bag and the outer bag”. Since, as discussed above, Sugata fails to disclose an “outer bag” as stated in Claim 1, it is impossible for Sugata to disclose a “first space” since the “first space” is defined, and only has meaning, in relation to an “outer bag”. Since Sugata fails to disclose a “first space”, it is also impossible for Sugata to

disclose “a communication passage through which the first space is held in communication with the exterior of the ink cartridge”, as stated in Claim 1.

In response, Examiner asserts that Sugata discloses that the arrangement shown in Fig. 7 may be interchanged such that ink pack 351 is used as the air injection pack, and air injection pack 352 is used as the ink pack. However, this misinterprets the teachings of Sugata.

The specific passage to which Examiner cites states:

“the constructions of the ink pack and the air injection pack should not be limited to those, but can be **arbitrarily changed** if the ink cartridge is provided with an ink pack and an air injection pack, which is arranged adjacent to the ink pack and can decrease the volume of the ink pack as its volume is increased with the air fed thereinto” Sugata, Col. 8, Lns. 50-56 (emphasis added).

Such language is standard at the end of patents and patent applications to ensure that the claims are not improperly narrowed based on language of the specification. However, such language most certainly does not teach any other arrangements of the ink pack 351 and air injection pack 352. Moreover, the above language of Sugata does not state that the ink pack 351 and air injection pack 352 can be interchanged, but rather states that the constructions of the ink pack 351 and air injection pack 352 can be “arbitrarily changed”. Essentially, Sugata states that any other non-specified, non-taught construction may be used, so long as the language of the claims is satisfied. Accordingly, such above language does not teach or suggest that the ink pack 351 and air injection pack 352 can be interchanged.

All of Examiner’s subsequent responses to Applicant’s arguments rely on Examiner’s assertion that Sugata teaches that the ink pack 351 and air injection pack 352 can be interchanged. However, as stated above, Sugata does not teach that the ink pack 351 and air injection pack 352 can be interchanged. Therefore, Applicant respectfully asserts that Examiners subsequent responses/assertions are necessarily flawed, as the basis for those responses/assertions is incorrect.

In response, Examiner admits that Sugata fails to teach that the ink pack 351 and air injection pack 352 can be interchanged. In stead, Examiner asserts that such an exchange is

obvious. However, when using multiple references for an § 103 obviousness rejection, Examiner must show that the references relied on teach or suggest all of the limitations of the claims.

There is no teaching or suggestion in Sugata to place the ink pack 351 inside of the air injection pack 352, and Examiner does not assert otherwise. Rather, Examiner asserts that such would be an obvious variation, and referred to the United States Supreme Court's *KSR v. Teleflex* decision in support of this assertion. 550 U.S. ___, 127 S. Ct. 1727 (2007). This, however, is incorrect.

The *KSR* case related to modifying the procedure for determining whether two prior art references could be combined with each other. In particular, *KSR* struck down the Federal Circuit's teaching/suggestion/motivation test as a litmus test for combining references to reach and obviousness rejection. However, *KSR* did not modify the principle that the references relied on must themselves teach or suggest all of the limitations of the claims.

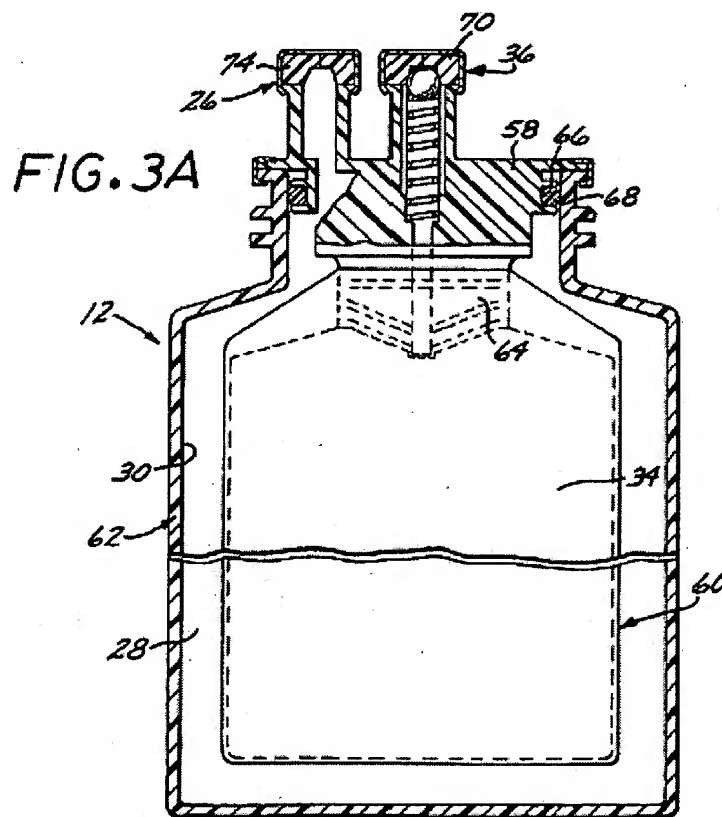
Examiner admits that neither Sugata nor Perez teach or suggest "an outer bag which is formed of a second flexible sheet and which encloses the ink accommodating bag such that a first space is defined by and between the ink accommodating bag and the outer bag", as stated in Claim 1. Rather, to arrive at the invention of Claim 1, Examiner asserts you must modify Sugata by combining it with the teachings in Perez, and then further modify the combination of both references by something that neither reference teaches or suggests, namely placing the ink pack 351 inside of the air injection pack 352.

Such a modification is completely improper, as neither reference teaches or suggest this modification. In fact, the only reason to modify the combined references by placing the ink pack 351 inside of the air injection pack 352 is to obtain the benefits of the current invention, namely to provide an ink package which prevents deterioration of the deaeration degree of the ink accommodated in the ink package and evaporation of the aqueous component of the ink. Specification, ¶ [0009]. This is an improper use of hindsight to modify the references in a way that neither reference teaches or suggests.

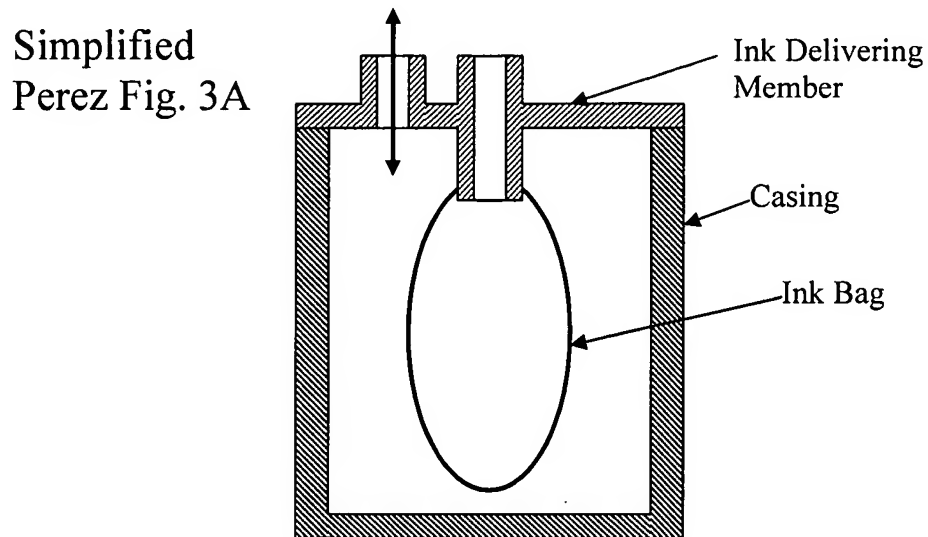
Therefore, Applicant respectfully asserts that the Examiner has improperly used the cited references to arrive at an obviousness rejection.

Furthermore, Examiner has admitted that Sugata does not disclose the ink delivering member of Claim 1. Office Action (5/24/07), P. 3. Moreover, neither does Perez disclose the ink delivering member of Claim 1.

As shown in Fig. 3A below, Perez teaches a collapsible reservoir 60 situated inside a pressure vessel 62.

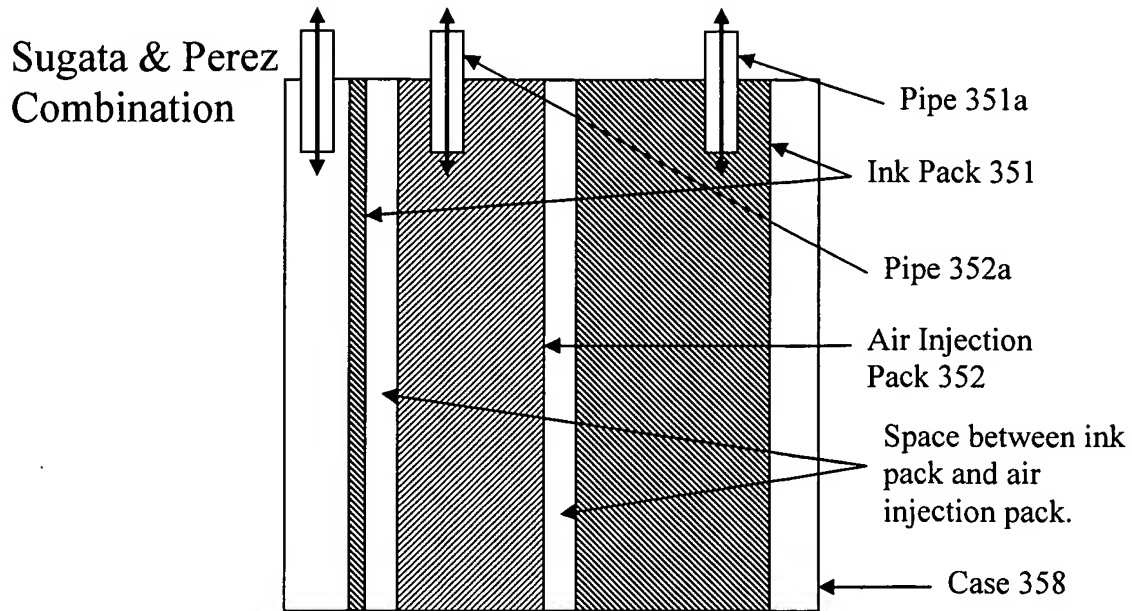


Accordingly, pressure vessel 62 is not an outer bag, as stated in Claim 1, but rather is a casing surrounding the collapsible reservoir 60. Thus, a simplified depiction of Perez's Fig. 3A is as follows:



Therefore, as can plainly be seen, Perez fails to teach any outer bag as claimed in Claim 1. Therefore, it is impossible for Perez to disclose an “ink delivering member including a fixing portion **to which the outer bag is fixed** at an opening thereof and an extending portion which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion and to which the ink accommodating bag is fixed at an opening thereof”.

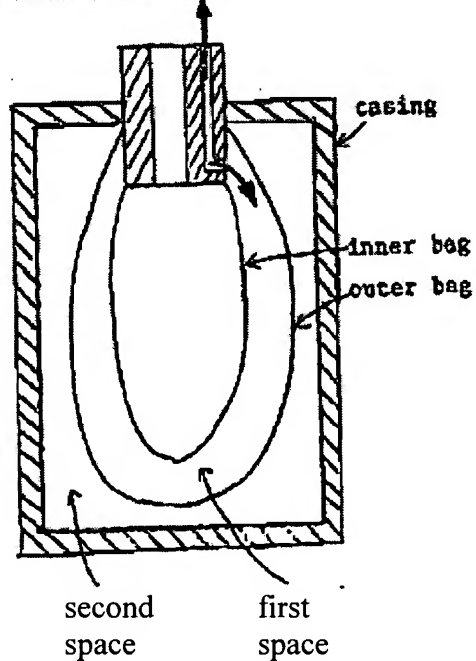
In addition, it is impossible to combine Sugata and Perez to arrive at all of the claim limitations of Claim 1. This can be seen if you combine the qualities from Sugata's Fig. 7 exaggerated left side, cross-sectional view with the above simplified depiction of Perez's Fig. 3A. Such a combination would have a pipe connected to the ink pack and a pipe connected to the air injection pack, as in Sugata, as well as having a pipe connected to the space between the casing and the bag, as in Perez. This combination would look like the figure below:



It should be noted that, even if Sugata and Perez are combined, it is impossible to arrive at the present invention, which is configured as schematically indicated below:

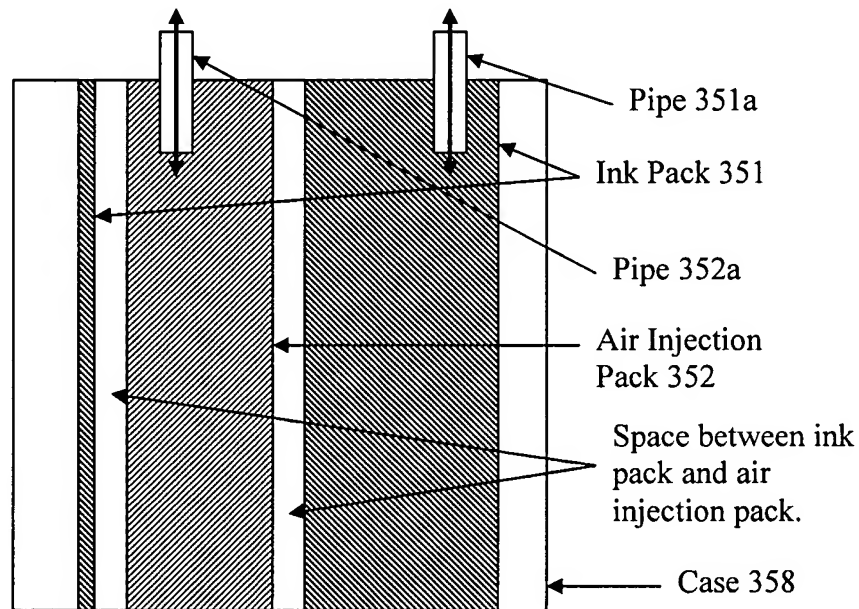
Drawing (D)

Present invention

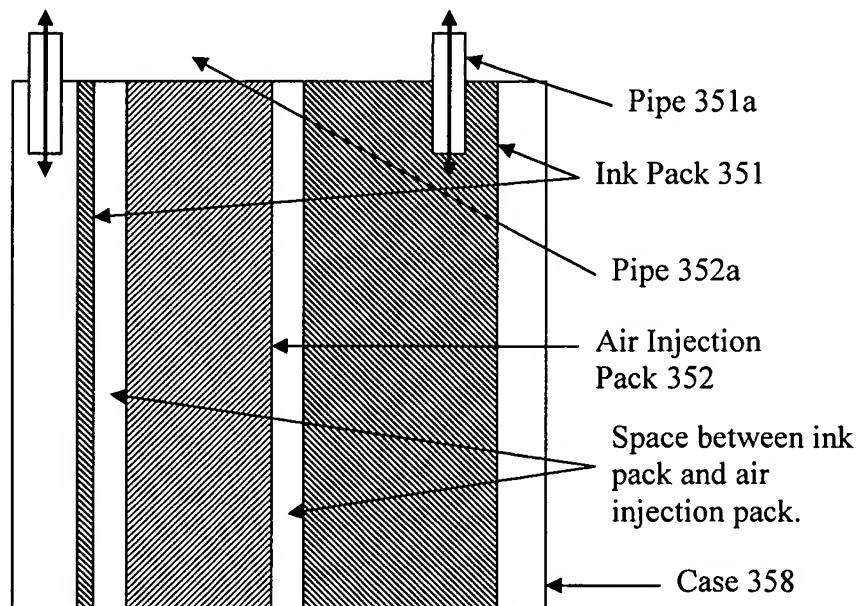


In response, Examiner asserts that the above described combination having three pipes seems functionally illogical. Applicant respectfully disagree with the Examiner's assertion. However, even if Examiner is correct that a combination of Sugata and Perez which arrives at three pipes would be illogical, a combination of these references which has only two pipes would similarly fail to disclose the language of Claim 1. There are only two reasonable combinations of Sugata and Perez that arrive at only two pipes, as one of the pipes must communicate with the ink pack 351. These two combinations are shown below:

Sugata & Perez
Combination #1 w/
Only Two Pipes



Sugata & Perez
Combination #2 w/
Only Two Pipes



As can be seen, neither of the above two combinations discloses the language: “an outer bag which is formed of a second flexible sheet and which encloses the ink accommodating bag such that a first space is defined by and between the ink accommodating bag and the outer bag”, as stated in Claim 1. This is because, as discussed above, there is no way to combine the teachings of Sugata and Perez to arrive such that the ink pack 351 is located inside the air injection pack 352.

Since both Sugata and Perez teach away from the combination that is asserted by the Examiner, there can be no motivation to combine the two references in the manner suggested by the Examiner.

Both Sugata and Perez fail to disclose (1) “an outer bag which is formed of a second flexible sheet **and which encloses the ink accommodating bag** such that a first space is defined by and between the ink accommodating bag and the outer bag”, (2) an “ink delivering member [that] further includes an ink outlet passage through which the ink in the ink accommodating bag is delivered to an exterior of the ink cartridge **and a communication passage through which the first space is held in communication with the exterior of the ink cartridge**”, and (3) an “ink delivering member including a fixing portion **to which the outer bag is fixed** at an opening thereof and an extending portion which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion and to which the ink accommodating bag is fixed at an opening thereof”, as stated in Claim 1. As such, the references cited by the Examiner do not teach or suggest all of the limitations of Claim 1. Moreover, one of ordinary skill in the art would not combine Sugata and Perez to arrive at the invention as described in Claim 1. Accordingly, Applicant respectfully asserts that Examiner has failed to establish a prima facie case of obviousness of independent Claim 1 and corresponding claims 4-6, 13, 14, and 16-22 because they are all dependant from Claim 1. Therefore, Applicant respectfully requests that Examiner remove the rejections of claims 1, 4-6, 13, 14, and 16-22 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,874,878 to Sugata in view of U.S. Patent No. 6,074,050 to Perez et al.

III. REJECTION OF CLAIMS 2 AND 9 UNDER 35 U.S.C. § 103(A) BASED ON SUGATA IN VIEW OF PERES, AND FURTHER IN VIEW OF DOWELL

On page 7 of the current Office Action, the Examiner rejects claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of Dowell. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claims 2 and 9 are each ultimately dependent upon independent Claim 1. As Claim 1 is allowable, so must be claims 2 and 9. Therefore, Applicant respectfully requests that Examiner remove the rejections of claims 2 and 9 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,874,878 to Sugata in view of U.S. Patent No. 6,074,050 to Perez et al., and further in view of U.S. Patent No. 6,508,545 to Dowell et al.

IV. REJECTION OF CLAIMS 7 AND 8 UNDER 35 U.S.C. § 103(A) BASED ON SUGATA IN VIEW OF PEREZ, AND FURTHER IN VIEW OF PERKINS

On page 8 of the current Office Action, the Examiner rejects claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of Perkins. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claims 7 and 8 are each ultimately dependent upon independent Claim 1. As Claim 1 is allowable, so must be claims 7 and 8. Therefore, Applicant respectfully requests that Examiner remove the rejections of claims 7 and 8 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,874,878 to Sugata in view of U.S. Patent No. 6,074,050 to Perez et al., and further in view of U.S. Patent No. 6,715,864 to Perkins et al.

V. REJECTION OF CLAIM 12 UNDER 35 U.S.C. § 103(A) BASED ON SUGATA IN VIEW OF PEREZ AND DOWEL, AND FURTHER IN VIEW OF PERKINS

On page 9 of the current Office Action, the Examiner rejects Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez and Dowell, and further in view of Perkins. This rejection is respectfully traversed and believed overcome in view of the following discussion.

Claim 12 is ultimately dependent upon independent Claim 1. As Claim 1 is allowable, so must be Claim 12. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claim 12 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,874,878 to Sugata in view of U.S. Patent No. 6,074,050 to Perez et al. and U.S. Patent No. 6,508,545 to Dowell et al., and further in view of U.S. Patent No. 6,715,864 to Perkins et al.

VI. REJECTION OF CLAIM 15 UNDER 35 U.S.C. § 103(A) BASED ON SUGATA IN VIEW OF PEREZ, AND FURTHER IN VIEW OF PRESNICK

On page 10 of the current Office Action, the Examiner rejects Claim 15 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of Presnick. This rejection is respectfully traversed and believed overcome in view of the following discussion.

Claim 15 is dependent upon independent Claim 1. As Claim 1 is allowable, so must be Claim 15. Therefore, Applicant respectfully requests that Examiner remove the rejection of Claim 15 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,874,878 to Sugata in view of U.S. Patent No. 6,074,050 to Perez et al., and further in view of U.S. Patent No. 3,730,240 to Presnick.

**VII. REJECTION OF CLAIMS 23 AND 24 UNDER 35 U.S.C. § 103(A) BASED ON SUGATA IN
VIEW OF PEREZ, AND FURTHER IN VIEW OF PRESNICK**

On page 11 of the current Office Action, the Examiner rejects claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over Sugata in view of Perez, and further in view of Presnick. These rejections are respectfully traversed and believed overcome in view of the following discussion.

Claim 23 of the current application states, in part:

“an outer bag which is formed of a second flexible sheet and which encloses the ink accommodating bag such that a first space is defined by and between the ink accommodating bag and the outer bag;

“an ink delivering member including a fixing portion to which the outer bag is fixed at an opening thereof and an extending portion which is formed adjacent to the fixing portion so as to extend therefrom toward an inside of the outer bag and to which the ink accommodating bag is fixed at an opening thereof; and

“a rigid casing which encloses the outer bag and the ink accommodating bag such that a second space is defined by and between the outer bag and the rigid casing and which holds the ink delivering member;”

(emphasis added).

Accordingly, (1) the outer bag must enclose the ink accommodating bag; (2) the first space is defined by and between the ink accommodating bag and the outer bag, and (3) the outer bag is distinct from the casing.

As discussed above in relation to Claim 1, both Sugata and Perez fail to disclose (1) **“an outer bag which is formed of a second flexible sheet and which encloses the ink accommodating bag such that a first space is defined by and between the ink accommodating bag and the outer bag”**, and (2) an **“ink delivering member including a fixing portion to which the outer bag is fixed at an opening thereof and an extending portion which is formed adjacent to the fixing portion so as to extend toward an inside of the outer bag in a first direction of the fixing portion and to which the ink accommodating bag is fixed at an opening thereof”**. As

such, the references cited by the Examiner do not teach or suggest all of the limitations of Claim 23,

Moreover, as discussed above in relation to Claim 1, one of ordinary skill in the art would not combine Sugata and Perez to arrive at the invention as described in Claim 23.

In addition, at Col. 2, Lns. 35-38, Presnick describes that “both bags may be totally collapsed or flat folded for shipping and storage, in which case the space 14 is eliminated and the bag walls are in face-to-face multilayered contact.” Further, at Col. 2, Lns. 60-67, Presnick describes that “the collapsible, thermos-type containers of the present invention may be shipped in a flat folded condition, and at the place and time of use, the inner bags may be filled through the filling tubes 13 with a commodity required to be maintained at a predetermined non-ambient temperature while the dead-air space 14 can be established by introducing air into the outer bags 11 through the tubes 15.” Judging from the descriptions, during the shipment of the bag structure of Presnick, no commodity or the like is accommodated in the inner bag 12. The inner bag 12 is filled with “a commodity required to be maintained at a predetermined non-ambient temperature” for the first time when the bag structure is actually used at the place where the bag structure is to be used. In contrast, when the ink cartridge according to the present invention is shipped, the ink accommodating bag (the inner bag) of the ink cartridge is already filled with ink while the first space between the ink accommodating bag and the outer bag is in a state in which the first space is evacuated to a reduced pressure. Owing to the arrangement of claim 23 wherein the first space is evacuated to a reduced pressure upon shipment of the ink cartridge, the dissolution of the gasses in the ink in the ink accommodating bag and the evaporation of the aqueous component of the ink can be effectively prevented during transportation of the ink cartridge and storage of the ink cartridge for a relatively long period. See paragraph [0021] of the specification. Presnick does not address even remotely the problem solved by the invention of claim 23. Presnick discloses only a two bag structure for packaging and never teaches or suggests utilization of the two bag structure for ink delivery. One of

ordinary skill in the art would not be motivated to combine the references as asserted by the Examiner.

Furthermore, one of ordinary skill in the art would find no motivation to combine Presnick with Sugata and Perez. Sugata and Perez both relate, in part, to ink delivery systems for printing. Presnick, however, relates to thermal insulation for packaging. While Presnick does disclose a two bag structure, it is for packaging and not at all for ink delivery. There is no suggestion or teaching in Presnick that would alert one of ordinary skill in the art that the teachings of Presnick may somehow be applied to ink delivery systems such as those taught in Sugata or Perez. The Examiner may not merely combine attributes of cited references without regard to their teachings. Rather, the Examiner must show that there is some motivation to combine the references in the manner suggested by the Examiner. See MPEP § 706.02(j). The Examiner has not, and cannot, show any motivation to combine the Presnick reference with the Sugata and Perez references.

Since (1) the cited references do not teach or suggest all of the limitations of Claim 23, (2) one of ordinary skill in the art would not combine Sugata and Perez to arrive at the invention as described in Claim 23, and (3) there is no motivation to combine the Presnick reference with the Sugata and Perez references, Applicant respectfully asserts that the Examiner has failed to establish a prima facie case of obviousness of independent Claim 23 and corresponding Claim 24 because it is dependant from Claim 23. Therefore, Applicant respectfully requests that Examiner remove the rejections of claims 23 and 24 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,874,878 to Sugata in view of U.S. Patent No. 6,074,050 to Perez et al., and further in view of U.S. Patent No. 3,730,240 to Presnick.

VIII. OBJECTION TO CLAIMS 3, 10, AND 11 AS BEING DEPENDENT UPON A REJECTED BASE

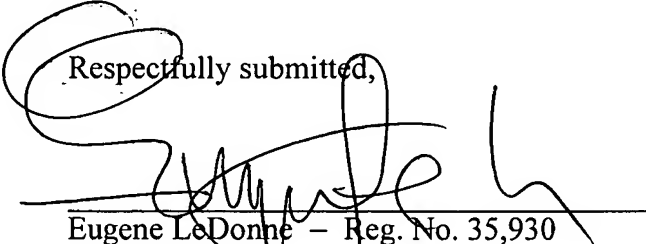
CLAIM

On page 13 of the current Office Action, the Examiner objects to claims 3, 10, and 11 as being dependent upon a rejected base claim. These objections are respectfully traversed and believed overcome in view of the following discussion.

Claim 3, 10, and 11 are ultimately dependent from independent Claim 1. As Claim 1 is allowable, so must be claims 3, 10, and 11. Therefore, Applicant respectfully requests that Examiner remove the objection to claims 3, 10, and 11 as being dependent upon a rejected base claim.

Based upon the above remarks, Applicant respectfully requests reconsideration of this application and its early allowance. Should the Examiner feel that a telephone conference with Applicant's attorney would expedite the prosecution of this application, the Examiner is urged to contact him at the number indicated below.

Respectfully submitted,


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